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RICE AND THE URUGUAY ROUND AGREEMENTS:

SOME EXPECTED OUTCOMES

Study by the UNCTAD secretariat

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Abbreviations

ACP	Africa, Caribbean and Pacific (countries)
CAP	Common Agricultural Policy
DFT	Different and favourable treatment
ECU(s)	European Currency Unit(s)
ESCAP	Economic and Social Commission for Asia and the Pacific
FAO	Food and Agriculture Organization of the United Nations
f.o.b.	free on board
GATT	General Agreement on Tariffs and Trade
GDP/GNP	Gross domestic/national product
GSP	Generalized System of Preferences
IATRC	International Agricultural Trade Research Consortium
LDCs	Least developed countries
NTBs	Non-tariff barriers
OECD	Organization for Economic Cooperation and Development
SCM	Subsidies and countervailing measures
SPS	Sanitary and phytosanitary (measures)
TAMS/AMS	Total/aggregate measure of support
UNCTAD	United Nations Conference on Trade and Development
USDA	United States Department of Agriculture
WTO	World Trade Organization

SUMMARY AND CONCLUSIONS

1. The number of countries and territories participating in the Uruguay Round negotiations, at 127, was unprecedentedly large. For all practical purposes, this signifies a universal recognition of the great appeal, relevance, and viability of evolving international complementarities to the economic growth and structural transformation of nations, whether rich or poor.

2. The Agreement on Agriculture embodies a number of important breakthroughs in its three constituent elements - namely border protection, export subsidies and domestic support. In particular, bound and tariffied customs duties will govern all farm trade, which is also subject to strict regulation as regards the volume of and/or outlays on subsidized outputs and exports. All these innovative provisions and requirements greatly contribute to the transparency and predictability of trade barriers and export market conditions. They certainly represent the first solid step towards further reforms and liberalization in agricultural production and trade in the early decades of the coming century.

3. But domestic support and assistance to exports will remain considerable. Such persistent distortions, together with a large number of special safeguard and accommodation provisions, reflect thus the special position (or specificity) of agriculture in the historical context of multilateral trade for nearly half a century. The Agreement has on balance succeeded in imposing objective and transparent constraints, and operationally effective rules on participating countries' farm policies; these are achievements beyond what could realistically have been hoped for at the beginning of the Uruguay Round. But the trade-offs for greater predictability and workable discipline have been more limited liberalization, plus a considerable measure of ambiguities and several grey areas for interpretation.

4. Largely as a result, the Uruguay Round Agreements are expected to have a more modest pull on the prices of rice or, for that matter, of many other farm products than was originally presumed. There are reasons, however, to expect the structural instability in rice prices as well as the secular decline of these unit values in real terms to continue in the foreseeable future.

5. The new, relatively large access to East Asian markets secured under the Round can be highly significant in the long run. Its impact on the rice economy, however, tends to be outweighed by more mundane factors such as unexpected output variations due to weather conditions, population growth and urbanization patterns, economic expansion and restructuring, and on-going improvements in policy incentives and support infrastructure for enlarged output and greater productivity. In particular, income growth will generate demand shifts in favour of better quality (e.g. fragrant varieties) and grades of rice; and the significant export opportunities to emerge from the reform would be considerably facilitated under the new multilateral trade regime.

6. At the same time, however, the Uruguay Round Agreements have also altered the policy-making environment within the domestic rice economy. Policy options for agricultural assistance will be more limited in range and permutable combinations; they will also be more diffuse in focal thrusts.

7. The special treatment accorded to least developed and other low-income countries provides a needed breathing space for policy adjustments and transition. However, reforms will have to be undertaken and their associated costs managed. There can be no sustainable substitute for enhanced economic efficiency and flexibility; these command an ever rising premium in an increasingly competitive and integrated global environment.

INTRODUCTION

8. The latest series of multilateral trade negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT) was officially launched on 20 September 1986 with the Ministerial Declaration on the Uruguay Round (also known generally as the Punta del Este Declaration). There were in total 127 participants in the Round. Agreements were reached and the results incorporated in the Final Act on 15 December 1993. The Uruguay Round was finally concluded in Marrakesh on 15 April 1994 - with the signing of the Final Act, and the opening for signature of the Agreement Establishing the World Trade Organization (WTO). Also forming an integral part of the WTO Agreement were the Ministerial Decisions and Declarations adopted at Marrakesh.[1]

9. The patterns of international trade have exhibited a number of striking asymmetries. Characteristic of trade in farm products, for example, are lower degrees of multilateral discipline, transparency and market access commitments, compared to those governing trade in manufactures. Domestic support for agriculture has also become increasingly unsustainable for a variety of domestic reasons and external spill-over effects (UNCTAD, 1995a). Agriculture thus played a key role in the Uruguay Round from the start; and agricultural issues were the primary cause of a three-year delay in the scheduled completion date for the negotiations (the "final" Ministerial meeting collapsed in Brussels in December 1990).

10. This study examines some of the likely impact of the Uruguay Round Agreements on the global rice market. This cereal is a staple food for about one half of the world's population; it is a wage-good especially in urban areas, and a source of cash income and subsistence for the large majority of the rural population in most developing, rice-producing countries. The overwhelming bulk of rice - some 95 per cent in 1994 - comes from third-world economies. There are only a handful of surplus producers which are mostly located in Asia. But the sources of import demand are numerous and spread across the globe, while the volume of traded rice is marginal relative to total output.

11. All those structural characteristics have rendered the market for this foodgrain inherently volatile, and there has been extensive government intervention in rice production and trade in many developing as well as developed economies over the years. Other matters of significant policy concern include the evolving shifts in demand composition and supply availability within the rice economy as a result of secular economic growth and structural transformation. Such changes will enlarge considerably export opportunities for the types and grades of rice enjoying growing consumer preferences, but they also necessitate judicious policy adjustments and structural adaptation to accommodate the eroding comparative advantage in rice farming as economies move on to different trajectories of dynamic competitiveness.

12. Several of the policy issues and implications noted above are considered at length elsewhere (UNCTAD 1995 a and b). The following discussion is focused largely on some expected outcomes of the Uruguay Round Agreements on world trade in rice. Chapter I maps out as accurately as possible in non-technical language the major elements of the Agreement on Agriculture; due attention, however, is also paid to pertinent clauses in other Agreements, Decisions and Understandings under the Round. This serves as the necessary backdrop for the ensuing discussion of a number of expected outcomes and related policy issues pertaining to near-term movements in, and prospective outlook for, rice prices and earnings (chapters II and III respectively); and protection, support, and preferences for agriculture, including rice cultivation (chapter IV). This last chapter is concluded with a number of more general remarks on the subject matters analyzed earlier.

Chapter I

PERTINENT AGREEMENTS AND PROVISIONS

13. As specified in the Punta del Este Declaration, the basic aims of negotiations were to bring about "more discipline and predictability" to and "greater liberalization" of trade in farm products. In addition, "strengthened and more operationally effective GATT rules and disciplines" would be designed for all measures affecting import access and export competition in such trade.[2]

A. The Agreement on Agriculture

14. The Agreement on Agriculture covers a comprehensive range of farm items. However, leather, rubber, jute and hard fibres, fishery and forestry items are considered as manufactured goods or industrial products. Generally, the major agricultural commodity groups include tropical and other beverages, and spirits; fruit, vegetables, and nuts; oilseeds, fats, and oils; tobacco; sugar and spices; grains and cereal preparations; animals and animal products; dairy products; flowers, plants and vegetable materials; and other agricultural items (e.g. cotton, silk, raw flax, raw hemp etc.).

15. The terms of the Agreement on Agriculture, among other agreed outcomes, establish a set of new tariffication, regulatory and other operational rules; result in legal bindings of tariffs and quantification of non-tariff barriers; and require commitments by signatory countries to immediately liberalize trade, as well as to reduce trade-distorting policies and practices. In those aspects, the Uruguay Round achieves a quantum leap in relation to the way agriculture used to be treated in GATT.

16. The three major elements in the Agreement are encapsulated in box 1. An umbrella condition is the six-year implementation period for developed countries (1995-2000). For the developing countries, however, the period is extended to 10 years (1995-2004), and the binding reduction commitments is set at two-thirds of those applicable to their developed counterparts. Least developed and other low-income developing countries, including net food-importing developing economies, are also accorded additional special and differential treatment, as will be discussed shortly.

1. Market access

17. Trade opportunities for agriculture are to be made available as well as widened in three ways; generally the base period for various quantifications for this purpose is 1986-1988. First, all non-tariff barriers (NTBs) are to be converted to their tariff equivalents.[3] The tariffication level so derived plus the prevailing custom duties are to be reduced by an import-weighed average of 36 per cent or by 24 per cent for developing economies other than the least developed countries (LDCs). This is to be accomplished through equal annual instalments starting in 1995. In any case, the minimum cut for each tariff line is 15 per cent (10 per cent for developing countries).

Box 1

A bird-eyes-view of selected provisions in the Agreement on Agriculture a/

Subject	Rules	Liberalization	Safeguards	Special treatment and accommodations
Market access	- Tariffication of all non-tariff barriers (NTBs) - Bind the overall tariffs - No new NTBs	- Overall tariffs to be cut by 36 (24) per cent - Minimum tariff cut 15 (10) per cent	- Guaranteed current or minimum access - Protection against import surges or declines in world prices	- No reduction by least developed countries (LDCs) - Delayed tariffication
Domestic support	- Specification of "amber" type and "green box" policies	- Reduce total outlays on amber policies by 20 (13.3) per cent	- "Green box" policies can continue	- *De minimis* rule - Decoupled support payments excluded - Extra exemptions for developing countries
Export subsidies	- Commodity-specific categorization of assistance - No new subsidies on other commodities	- Lower expenditure by 36 (24) per cent - Reduce volume by 21 (14) per cent	- Adherence to food aid rules - Export credit provisions and guarantees	- Developing countries' internal transport, and marketing costs exempted

Source: GATT (1994a).

Notes: a/ Implementation period: ten years for developing countries and six years for developed countries; figures in brackets refer to the magnitudes pertinent to developing countries.

18. The second arrangement concerns items previously covered by NTBs. The minimum access for products with low or minimal pre-existing shares is to be enlarged to three per cent of domestic consumption in 1995 and to five per cent by the end of the implementation period. Such imports are to be encouraged by the imposition or maintenance of low or minimal tariffs (tariff-rate quotas). Tariffs derived from the tariffication process will apply when import volumes exceed the minimum access granted. Current market access enjoyed by individual countries will be maintained under bilateral tariff quotas.

19. Third, all tariffs and import levies based on tariffication will be bound; higher rates may not be charged without commensurate compensation to the trading partners affected. Thus, one of the striking asymmetries between trade in agricultural commodities and manufactures is disappearing: for the first time in the history of GATT, all tariff lines on farm products will be bound (compared to about 87 per cent of those applied on industrial goods), although in many cases at very high levels. Furthermore, there will no longer be NTBs against those products.[4]

20. There are, however, a number of built-in special treatment provisions (Article 4.2 and Annex 5) and safeguards (Article 5). First, delay in tariffication is allowed under certain conditions - including notably in the case of primary agricultural commodities which are a predominant staple in a country's traditional diet (such as rice). Second, additional customs duties can be imposed on farm products subject to tariffication (i.e. to current or minimum access concessions) if their import volumes or prices respectively exceed or fall below certain trigger levels.[5]

2. Domestic support

21. Government assistance in favour of agricultural producers takes a variety of forms. But the common arrangements for such support, and the substantial ballooning of financial outlays and costs involved, have created significant distortions to production, consumption and trade. The introduction of binding national commitments to reduce the prevailing levels of assistance is nominally another notable, innovative achievement of the Agreement on Agriculture, especially compared to the backdrop and outcomes from the previous rounds of trade negotiations.

22. The Agreement on Agriculture distinguishes between domestic support policies which distort trade (amber category) and those that do not (green type). The former embody certain transfers accrued to producers or borne by consumers; they may be also linked to the production of specific commodities. "Green box" measures are basically government programmes which are funded and available publicly, and which do not in effect provide price support to producers.[6] As will be discussed below, the approach and arrangements under this Agreement differ somewhat from those adopted in the parallel Agreement on Subsidies and Countervailing Measures (SCM). The latter for the first time defines "subsidy" as involving a financial contribution by a Government or any public body, thereby conferring a benefit on the recipients or participants.

23. Internal assistance can continue through green-type policies but support associated with their amber counterparts generally has to be scaled down. The binding commitments to reduction, however, are cumulated on an aggregate (and not product-specific) basis: the overall level of subsidies, as indicated by the Total Aggregate Measure of Support (or TAMS), is to be lowered by 20 per cent (or 13.3 per cent for developing countries) in the year 2000 (or 2004). There is thus considerable scope and flexibility for government to choose, balance and trade off a variety of available options for assistance to various agricultural subsectors in the implementation process.

24. Exempted from the above provision are domestic support measures whose outlays constitute, on a general or product-specific basis, less than five per cent of output value (10 per cent for developing countries). In addition to this *de minimis* rule, direct payments through production-limiting programmes are also excluded under certain conditions - notably when they are decoupled from output; or are based on fixed area and yield, or on a fixed number of head of livestock. For developing countries, however, there is an extra set of dispensations. This concerns investment subsidies generally available to the farm sector; input subsidies destined for low-income or resource-poor producers, but which are also generally accessible to all farmers; and assistance to encourage diversification from the production of illicit narcotic crops.

3. Export subsidies

25. Earlier rounds of trade negotiations achieved considerable success in virtually eliminating direct subsidies for industrial product exports by developing countries. However, government assistance for the disposal across border of rising surpluses of agricultural commodities (induced to a significant degree by policy support itself) has become substantial over the years; they are also a source of significant distortion to world trade and friction in global relations. The Agreement on Agriculture, among others in the Final Act, will help infuse discipline and greater transparency in the application of pertinent policy measures.[7]

26. In contrast to the aggregated approach under domestic support noted above, binding commitments to reduce export subsidies are made in terms of commodity-specific volume and value. First, the volume of export items benefiting from government assistance must be lowered by 21 per cent (14 per cent for developing countries). Expenditure on such support is also to be cut but by 36 per cent (24 per cent for developing countries). The base level is the average 1986-1990 volume and value; reductions are to be made in equal annual instalments with the first-year cuts, for example, being 3.5 per cent of the subsidized export quantities and 6 per cent of the budgetary outlays on such subsidies in the case of developed countries.[8] Second, current subsidies in effect are limited to agricultural items already receiving from such assistance in the base period; they cannot be extended to cover new products.

27. Again, there are several exemptions. First, exporting countries would be allowed to maintain higher levels of subsidized exports in the four-year period (up to and including 1999) under certain relatively strict conditions. However, they are required to achieve the same final, agreed level of reduction at the conclusion of the implementation period in terms of the base level of 1986-1990 average. This implies a sharper reduction (in absolute terms) of export subsidies that have expanded in value during the 1991-1992 period, and vice versa. Second, processed items are subject to binding commitments on value (or budgetary spending) only. Third, developing countries are accorded the option of lowering marketing costs of farm produce as well as differential internal transport expenses through government support.

28. Other things being equal, quantity commitments can be more effective in limiting subsidized exports. As agricultural production and trade are liberalized (through mutually reinforcing discipline on domestic support and export subsidies), world prices would probably be higher, while their internal counterparts lower for a wide range of farm commodities. The narrowing price wedge or gap would reduce the budgetary outlays on export assistance. Countries could thus conceivably meet their commitments on budgetary expenditure without the need to cut down the quantity of subsidized exports, if there were no binding reductions on volume.

29. Export subsidy commitments may be circumvented, and the possibilities are to be minimized by a number of provisions including those on food aid, export credit and export credit guarantee measures. In particular, food assistance should not be linked directly or indirectly to commercial exports; should be implemented in accordance with Principles of Surplus Disposal of the Food and Agricultural Organization of the United Nations (FAO); and should be made available to the extent possible in fully grant form, or on terms no less concessional than those specified in Article IV of the 1986 Food Aid Convention.

B. Other related provisions and commitments

1. Sanitary and phytosanitary (SPS) clauses

30. Human, animal and plant life and health can be exposed to dangerous risks from the spread of pests or diseases, and/or from additives or contaminants found in internationally traded food, beverages or feedstuffs. The relevant GATT rules in effect were vague and health-related requirements and were often erected as barriers to trade. The need for change was supported virtually by all negotiating parties; the Agreement on SPS Measures forms an integral part of the Final Act but is structurally separate from its Agriculture counterpart.

31. Generally, countries have a sovereign right to determine their acceptable SPS requirements and standards. But (arbitrary or unjustifiable) discrimination between trading partners should be avoided in cases where identical or similar conditions prevail. Members are encouraged to base their SPS measures on international standards, guidelines and recommendations such as those available from Codex Alimentarius (CODEX), the International Plant Protection Convention (IPPC), and the International Office of Epizootics (known by its abbreviation in French as OIE).

32. Harmonization of SPS measures is thus promoted but not required: countries can maintain standards which are higher than those recommended by international scientific organizations. But such stricter requirements have to be justified, scientifically or by a non-discriminatory lower level of acceptable risks. Other important provisions relate to procedures and criteria for risk assessment and determination of adequate protection; to transparency and openness in the development and formulation of SPS standards, and in the dissemination of related information; to an approach regarding pest/disease free "area within a country"; and to equivalency of standards.[9]

2. Special treatment for developing and other countries

33. Developing countries have been accorded, as a matter of widely accepted principle in international negotiations, differential and more favourable treatment (DFT). This was reiterated and further amplified in the Punta del Este Declaration.[10] DFT also forms an integral part of the Agreement on Agriculture, as noted earlier when the relevant provisions and binding commitments relating to developing countries are discussed above.[11] In that context, countries designated by the United Nations as LDCs are exempted from entering into any reduction commitments at all. There were 48 LDCs with an estimated population of more than 555 million in 1993.

34. But DFT in favour of developing countries also features in other Agreements and Decisions. The SCM Agreement, for example, establishes three categories of subsidies - namely those prohibited, those actionable, and those permitted (or non-actionable).[12] Subsidies predicated upon export performance and the (imposed) preference of domestic over imported goods are subject to a blanket prohibition; indeed, the former are illustrated with some 11 examples in Annex I. Actionable assistance, however, can be maintained provided that no adverse effects are borne by other countries.[13] Government support and provision are non-actionable (i.e. not subject to countervailing duties or other remedial measures) if available and accessible at large.[14]

35. There are two specific sets of provisions for DFT for developing countries which, under the SCM Agreement, are divided into three subcategories - namely LDCs; 20 developing countries as listed in Annex VII and having a per capita gross national product (GNP) of less than US$ 1,000 a year; and other developing countries.[15] Firstly, as regards export performance subsidies, the first two groups of countries (as specified in Annex VII) are exempt from this blanket prohibition; the third group must progressively phased out such assistance within eight years. In addition, the ban on domestic goods preference will not apply to the least developed and other Annex VII countries for eight years, and to other developing countries for the five years from 1995. Secondly, during periods when prohibited subsidies are made by developing countries, only the remedies in respect of serious prejudice will apply. However, there will be no presumption of serious prejudice pertaining to actionable assistance by these countries.

36. It will be recalled that possible import surges were anticipated from the minimum and current market access concessions for agricultural commodities previously covered by NTBs; the pertinent safeguard provisions made in the Agreement on Agriculture were discussed earlier (see also endnote 5). There is a similar correspondence embodied in the "graduation criteria" for the exemptions granted to developing countries under the SCM Agreement. One concerns the competitiveness of subsidized export products;[16] the levels of assistance value and of import market penetration of these products constitute the second criterion.[17]

37. Problems in the management of economic policy reforms, restructuring and transition confronting developing countries and countries moving to a market - based free enterprise system are given due recognition under the Uruguay Round. In particular, countervailing duties and other remedial measures are not applicable to such actionable subsidies as forgiveness of government-held debt and grants to bridge debt repayments. Also exempted is financial support to cover the social costs of a divestiture programme (provided that an eventual privatization of the enterprise concerned takes place). Furthermore, economies in systemic transition may engage in prohibited subsidies (i.e. government assistance contingent on export performance and on the use of domestic goods instead of imported commodities) for seven years.[18]

38. In addition, LDCs and net food-importing developing countries may encounter difficulties in securing adequate supplies of basic foodstuffs through external aid or on reasonable commercial terms and conditions. Measures to mitigate such possible adverse effects on these countries from the implementation of the Uruguay Round Agreements include the provision of periodic reviews of food aid levels, of higher proportions of food aid in grant form, and of DFT in export credits. At the same time, the level of technical assistance should be increased to help improve agricultural productivity and infrastructure in the countries concerned. In addition, the resources of existing facilities should be made available to cover short-term difficulties in the financing, by these disadvantaged countries, of their normal levels of commercial imports.

Chapter II

RICE EXPORT PRICES

39. The Agreement on Agriculture thus initiates the long overdue process of infusing greater discipline and transparency in the delicate connection between domestic farm policies and a more open and predictable international trade environment. Indeed, matters relating to agriculture were generally accorded a privileged position under the Uruguay Round.[19] The commitments-based approach adopted under the Agreement thus differs sharply from the explicit categorization of subsidies and their acceptability as embodied in the Agreement on SCM. Such an orientation was probably the only viable way to initiate the highly complex and sensitive process of strengthening effectively multilateral control of domestic support for, and export subsidies on, agriculture (UNCTAD, 1994e, pp. 98-99).

40. Extensive and, in many cases, in-depth analyses have been undertaken on the Uruguay Round Agreements and their anticipated effects. Most assessments accessible to date (May 1995) are of a preliminary and/or qualitative nature. Among other factors, this is due to the incomplete availability of information - including many signatory countries' commitment schedules; the still unfolding arrangements and mechanisms for implementation of the agreed reductions; as well as a host of other substantive, technical and procedural ambiguities etc. Besides, there is the fact that the WTO Agreement came into force only recently, whereas any revealed (or observable) changes in the patterns (i.e. structures, magnitudes and fluctuations) of commodity production and trade flows tend to be a medium to long-term proposition.[20]

41. The likely outcomes, furthermore, would not be uniform among various groups of countries or, for that matter, categories of traded commodities over time. The same is also true for individual countries or commodities within the same group or category in any given period. At the same time, any emerging impact will be heavily influenced by the domestic policy framework in which the market mechanism as well as globalization thrusts operate, or are allowed to function. Indeed, that trade liberalization can conceivably be a highly managed process is well evidenced from the available development experience - including that of most high-performance developing economies in East and South-East Asia, and elsewhere in the third world (UNCTAD, 1994d, pp. 58-62).

A. Marginal updrift

42. The behaviour of rice prices will remain by and large uncertain. As well as unpredictable weather, there will be major variations and shifts in demand and supply schedules - reflecting a confluence of forces including income growth, structural changes, policy reforms for enhanced incentives and productivity, and the application of yet another wave of advanced agricultural technologies. The new multilateral regime on farm production and trade will certainly have an impact on the global commodity markets, including that of rice. Such an effect, however, is anticipated on balance to be comparatively modest and is likely to be concealed by other secular developments within the rice economy, at least in the near to medium term.

43. *A priori*, there are three main reasons in support of an increase in world prices of rice or, for that matter, of a wide range of other agricultural commodities. First, there is a (double-impact) reduction in government support

for both rice production and exports, thus raising the costs of output as well as export prices. Secondly, minimum and current access concessions will increase import demand for, and thus enlarge the export volume of, rice - including those destined for Japan and the Republic of Korea, among other countries. Thirdly, there may be extra demand as a result of higher local production expenses, steadily lower import (tariffied) duties, a more liberal trade regime in rice-deficit countries, and domestic income expansion arising from the gradual phase-in of the Uruguay Round Agreements.

44. A large number of estimates of varying degrees of technical sophistication have been made concerning the likely movements in rice prices, among many others, both before and after the completion of the Round at the end of 1994. The results almost invariably indicate some price updrift although the estimated increases vary substantially, from 1 to 18 per cent (table 1).

45. Such a wide divergence reflects several tenuous assumptions made in the absence of firmer or more assured information on a host of parameters and variables, and their multi-dimensional interactions at various economic strata (e.g. macro, sectoral and micro levels) over time. Many such relationships do not easily lend themselves to empirical approximations which are not heavily qualified. Notwithstanding these caveats, however, it is generally believed that three sets of forces are going to marginalize the impact of the Uruguay Round Agreements on rice prices.

46. Firstly, the full outcomes of trade liberalization measures will be in place only after a relatively long gestation period of six to 10 years. Besides, there remain considerable ambiguities concerning certain provisions as well as the modalities of their implementation - such as those relating to tariffication, reduction in TAMS, subsidized export spending and volumes etc. The way some of these technical and procedural uncertainties are interpreted and implemented may, other things being equal, lessen further the original, expected impact (see also chapter IV).

47. Secondly, the current rules represent at most a modest, but important, first step forward for agricultural trade liberalization. This is apparent when various safeguards, guarantees and accommodations are taken into account. For example, it is highly significant that rice can be commercially imported into Japan and the Republic of Korea from 1995. But minimum access concessions made in exchange for delayed tariffication involve an extra import demand of 379 and 51 thousand tons of rice in the two countries respectively in 1995 (table 2); this additional quantity is equivalent to about three per cent of the estimated volume of global rice exports in 1994. In addition, safeguard provisions in the case of imports surges are relatively tight in terms of the volume and price trigger levels (see endnote 5).

48. There is a third a set of "extenuating" factors which may culminate in business as usual in rice trade. Two important developed-country exporters of rice, Australia and the United States, have had low protection for this farm subsector (table 2). On the other hand, concerted efforts at agricultural reform adopted by the European Union have in effect put the Common Agricultural Policy (CAP) on a fundamentally new basis since 1993, especially in the area of cropping. Thus, although remaining comparatively heavy in absolute terms, tariff protection for local producers is not much at variance with the levels prevailing in the Union during 1994. In addition, reductions in rice export subsidies in 1995 are in the range of 5-6 per cent of the outlays and volume in the base period (International Agricultural Trade Research Consortium (IATRC), 1994, 47-48).

Table 1

Estimated changes in world prices for selected cereals (in percentage)

	Rice	Wheat	Coarse grains
A. From Uruguay Round trade liberalization a/			
Tyers and Anderson (1986) b/	7	1	0
UNCTAD/WIDER (1990) c/	18	7	3 d/
PAGE *et al.* (1991)	1	5	2
PAPRI (1993) e/	4	6	2
Brandao and Goldin (1993)	4	6	4
Goldin *et al.* (1993)	- 2	6	4
Vanzetti *et al.* (1994) f/	10	7	4 g/
FAO (1995)	7	7	4 d/
Goldin and van der Mensbrugghe (1995) h/	1	6	3
Gulbrandsen (1995) i/	0.7	1.0	13.2
B. Real prices in the years 2000 j/			
World Bank (1982)	- 38	- 20	- 32
Zietz and Valdés (1982)	- 20	- 16	- 14
Parikh *et al.* (1986)	1	- 8	10
Roningen *et al.* (1986)	- 7	- 9	- 10
Akiyama and Mitchell (1987)	- 20 k/	- 21	- 24
FAPRI (1991)	- 23	- 15	- 23
Mitchell and Ingco (1992)	- 20	- 18	- 11

Sources: FAO (1994d, p. 25 and 1995a, p. 11); GATT (1994b, p. 62); Anderson and Hayami (1986, p. 57); Valdés and Zietz (1990, p. 46 and 103; and 1994, p. 2); Goldin and van der Mensbrugghe (1995, p. 15 and 28); Gulbrandsen (1995, p. 5); and Vanzetti, Melanie and Barry (1994, pp. 255-256).

Notes: a/ Figures in brackets following authors' names refer to the years of publication.
b/ Partial import liberalization in East Asian economies.
c/ Simulated results from UNCTAD and the United Nations World Institute for Development Economics Research on the basis of a 20 per cent reduction in producer price support.
d/ Simple average of maize and sorghum price estimates.
e/ Food and Agricultural Policy Research Institute.
f/ Assuming Uruguay Round outcomes for all countries.
g/ Maize only.
h/ Assuming 1991-1993 average protection benchmark and input subsidy reductions as stipulated.
i/ Assuming price-induced responses in domestic supplies and demand; if there are no such responses, the percentage change in prices will be 9.6, 8.6 and 9.0 respectively.
j/ Relative to base year price levels given in brackets; coarse grain prices are simple averages for maize and soya bean price estimates.
k/ Low demand scenario.

Table 2

Tariffs, access commitments and export subsidies on rice in selected countries, 1995 and 2000 a/

	Total tariffs b/		Access Commitments c/		Export subsidies			
					Quantities c/		Outlays d/	
	1995	2000	1995	2000	1995	2000	1995	2000
Australia	2	1	-	-	-	-	-	-
China	150	114	-	-	731	638	68	53
European Union	310	211	-	-	177	145	58	40
Indonesia	180	160	70	70	296	248	28 e/	22 e/
Japan	-	-	379	758	-	-	-	-
Philippines	50	50	60 f/	23 f/	-	-	-	-
Republic of Korea	-	-	51	204	-	-	-	-
United States	31 g/	21 g/	-	-	272	39	16	2

Sources: IATRC (1994)h/, OECD (1994e)i/ and GATT (1994a).

Notes: a/ 1995-2000 for developed countries and 1995-2004 for developing countries.
b/ Including customs duties in effected and the tariff equivalents of NTBs; *ad valorem* rates unless otherwise noted.
c/ Thousand tons.
d/ Millions of local currency units or of ECUs in the case of the European Union.
e/ In US dollars.
f/ Quota ceilings with in-quota tariff rate at 50 per cent; out-of quota tariff being set at 100 per cent.
g/ Total currency units per ton.

B. Declining real terms

49. Generally, therefore, any price changes induced directly by the Uruguay Round Agreements may be less than noticeable against the confluence of diverse price movements associated with constantly changing supplies and demand conditions within the rice economy as a whole (see also chapter III). If this is so, then the observed secular decline in real rice prices as well as the consequent adverse (net barter) terms of trade *vis-à-vis* manufactured products are unlikely to be reversed under the Round. This has long been among the matters of significant policy concern to developing-country exporters of primary commodities.[21]

50. In nominal value, the 1970s was a golden decade for commodities, with current (United States) dollar prices increasing by an annual average of 18.3 per cent for tropical beverages, 8.7 per cent for food items, but 10.3 per cent for rice, and 10.4 per cent for vegetable oilseeds and oils. Nominal prices, by and large, collapsed between 1980 and 1993, so that the cumulative change in rice export unit values averaged -4.9 per cent a year in the 1980s, and -3.3 per cent annually over 1990-1993.

51. However, the prices of this cereal picked up sharply in 1993/94 largely as a result of a great increase in import demand occasioned by a poor harvest in Japan. Nominal unit values during 1994 were about one-third higher than the previous year's average; but the upswing was short-lived. Rice prices were moving down to the normal, lower orbit during the second half of 1994 despite bullish expectations of smaller 1995 rice crops in two very large growers, China and Indonesia, and some delays of harvest in Pakistan and Thailand. During January-April 1995, for example, this foodgrain commanded an average of US$ 283 per ton (5 per cent broken white rice, free-on-board (f.o.b.) ex-Bangkok), virtually the same level as those prevailing in 1992 and 1993 (London Rice Brokers' Association, 1995, p. 1; United States Department of Agriculture, 1995a, 4 and 20-21; and UNCTAD, 1994a and b).

52. Discounted by the United Nations index of export unit value of manufactured goods from the industrialized market economies, the available evidence is reasonably clear that non-oil real commodity prices have been on a generally downward trend for the last several decades. This decline was particularly steep in the case of tropical beverages, vegetable oilseeds and oils, and food items (including rice) over the 1980s (figures 1 and 2). But real prices of this cereal were also falling by an annual average of 0.7 per cent in the golden 1970s. Generally, therefore, the terms of exchange between rice (plus a host of other primary commodities) relative to those commanded by its manufactured counterparts have long been unfavourable (Maizels, 1992, pp. 7-20; and 1994, pp. 1686-1687; and Sapsford and Balasubramanyan, 1994, pp. 1737-1743).

53. Furthermore, the trend is likely to continue under the new multilateral trade regime. Indeed, there is relative unanimity on the medium-term outlook for world rice prices in terms of the direction of change although, as to be expected, the estimated magnitudes vary significantly. Again, notwithstanding a wide range of caveats and other exogenous occurrences (such as the vagaries of climatic conditions), the real unit values of this staple foodgrain are forecast to go down considerably during the remainder of the current decade (table 1).

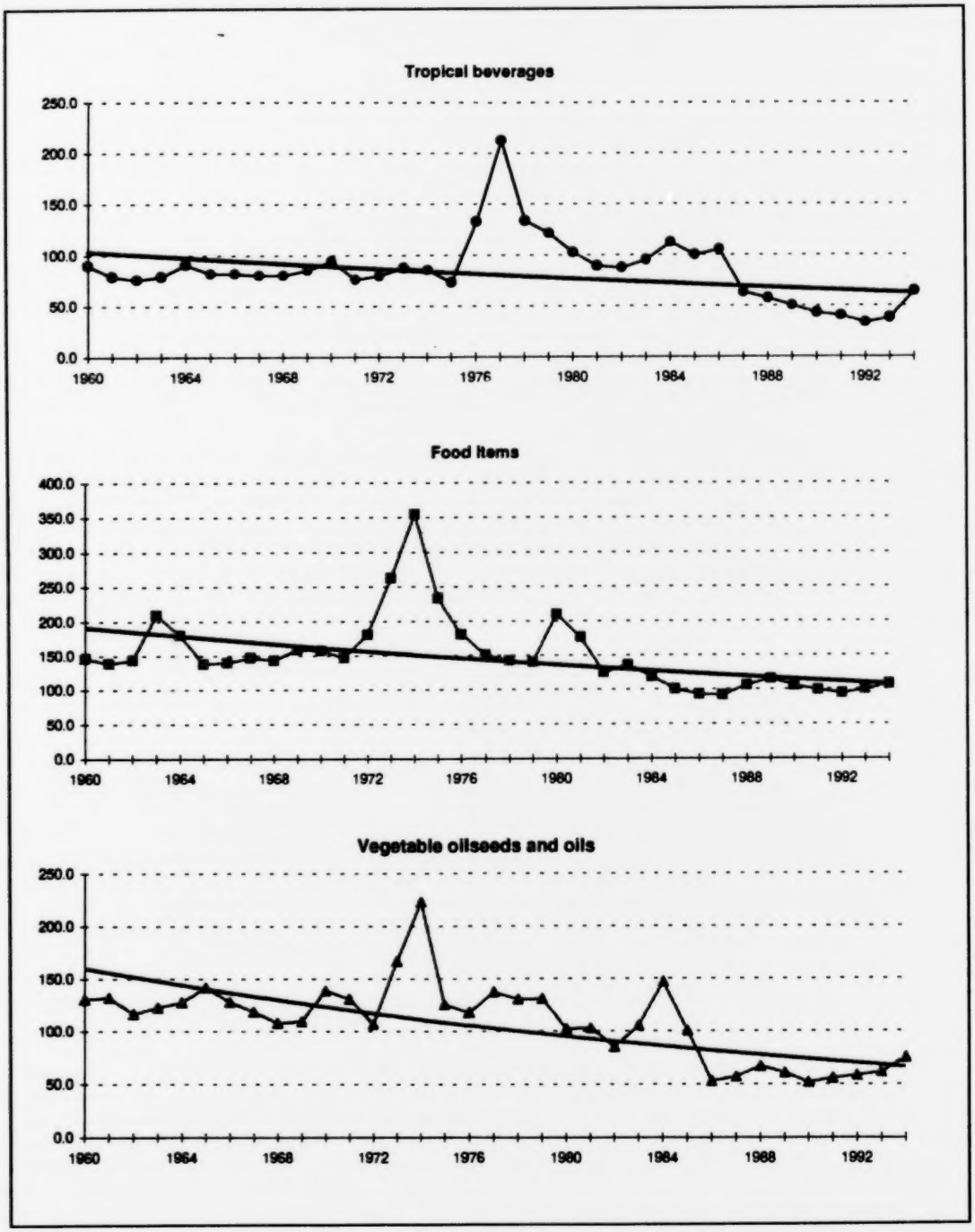
C. Continuing volatility

54. This is another structural characteristic of the global rice market of significant policy concern (box 2). *A priori*, it is possible that trade and production liberalization associated largely or partly with the Uruguay Round Agreements will open up more, as well as enlarge existing, national agricultural markets; these (liberalization) processes can be expected at the same time to induce greater timeliness in domestic supply responses to world price signals. Such interaction could help stabilize global commodity markets and prices through, firstly, a larger volume of traded output (thus making the market less "thin"); secondly, the absorption of unexpected production shortfalls by a greater number of countries (than before); and thirdly, more normal day-to-day transactions by private entrepreneurs (rather than bulky price-driving disposals or purchases).

55. However, the postulated outcomes above are unlikely to hold if supply shocks are positively correlated across countries or regions. It is indeed conceivable that, through reform-induced greater elasticity of rice supplies over demand, external prices could become even more unstable than before. This is because timely domestic responses from individual countries or markets would collectively magnify the perceived or current surpluses or shortages, thus generating correspondingly sharper swings in rice prices at the regional and global levels.

Figure 1

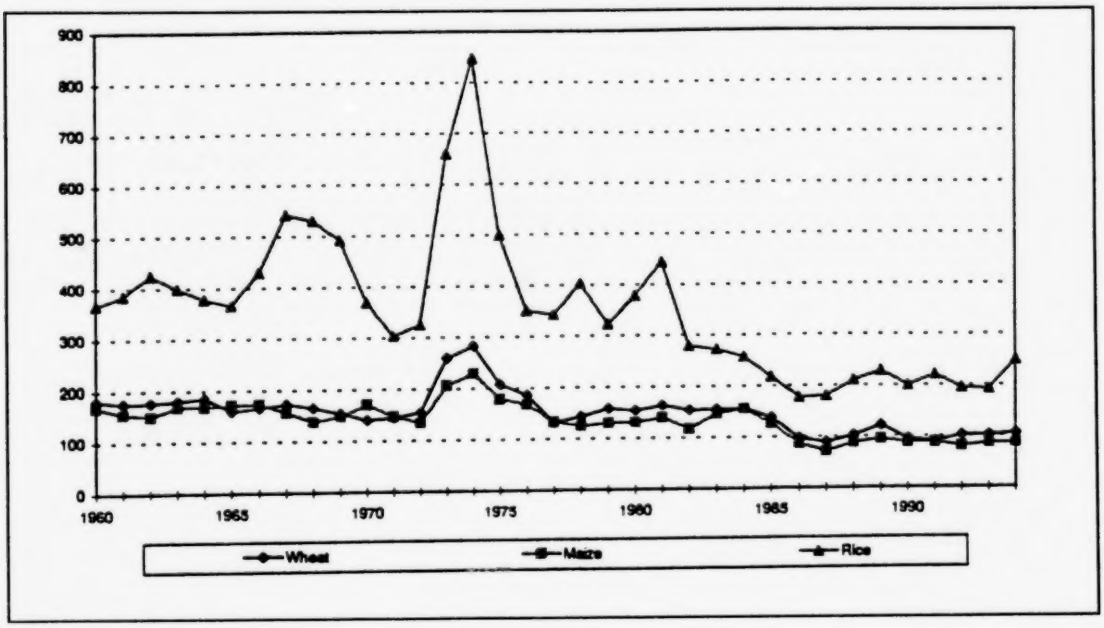
Short-term movements and long-term trend in price indices of selected categories of agricultural commodities, 1960 - 1994 (In constant United States dollars, 1995 = 100)



Source: UNCTAD secretariat calculation.

Figure 2

Yearly variations in the free market prices of rice, wheat and maize, 1960-1994 (in constant 1985 dollars)



Source: UNCTAD secretariat calculation.

56. The magnitudes of such price volatility depend much on the extent and ownership of rice stocks. Public stock holdings can be expected to be lower as a result of reduced government intervention, and also lower intervention prices, in the post-Round years. Such withdrawal has led to a vacuum in several functional areas, including commodity price stabilization, previously handled by intermediate public-sector authorities (UNCTAD, 1994g, pp. 14-15).[22] It has also not been compensated for fully by the private holding of higher stock levels. The lower total rice stock would thus tend to raise (or at least would not lower) the variability in rice prices particularly during shortage periods (Greenfield and Konandreas, 1995, p. 3).

57. As a matter of fact, countries' rice stocks are collectively projected to fall to 13.2-13.6 per cent of annual consumption by the end of the current 1994/95 marketing year; this is the lowest level since 1974 and is some 27 per cent below the stocking volume a decade ago (United States Department of Agriculture, 1995b, p. 37; and World Bank, 1995, p. 17). World rice prices could thus be even more sensitive to marginal changes in output or unexpected delays in the coming harvest in major rice producers and consuming countries, given such a tight stocking situation.

Box 2

A historical backdrop

Rice prices have exhibited the sharpest short-term fluctuations (around a declining trend line) than most other agricultural commodities during the past two decades or so.a/ As a proxy for such instability, the coefficient or percentage variation during 1968-1978 was almost 37 for annual rice prices (in constant United States dollars), compared to 29 for wheat and 19 for maize. It is worth noting that the corresponding instability coefficients for production reached only around 2.8 for rice, and 5.1 and 4.4 in the case of wheat and maize respectively; the same indicator for supply variations of all food grains being 2.5 in the same period (World Bank, 1986, pp. 22-23). The great sensitivity of world rice prices to even marginal changes in supplies is thus well evident.

The amplitude of commodity price variability has by and large moderated since the 1980s; this reflects, among other things, less severe weather-induced shortfalls, generally easier supply conditions and, for some items, the gradual emergence of a structural surplus. Over the decade ending in 1993, for example, the coefficient of variation in export unit values was about 12 for rice, compared to 8.4 in the case of all foodstuffs (UNCTAD, 1994a, p. 416).

The more pronounced instability in rice prices is largely attributable to the marginal amounts of exportable surplus relative to production; these averaged some five per cent of global output in recent years. A compounding factor is the prevalence of government-to-government bulk sales, thus reducing further the volume available for commercial trade. Another causal influence is the comparatively low rice stocks in terms of total requirements (more in the text).

Lastly, as a basic wage-good, the cereal commands considerable domestic political sensitivity. Any perceived or emerging shortage would likely trigger heavier and more extensive purchases and stocking, adding thus to external price instability. The recent steep upswing in rice prices, by about a quarter each in October and November 1993 alone, is again illustrative in those regards.b/

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a/ The more notable exceptions include sugar and pepper (for the 1980s and early 1990s only) of the food group; copra (over the 1980s and early 1990s only) of the category of vegetable oilseeds and oils; as well as linseed oil, sisal (during the 1970s only), and jute (within the 1980s and early 1990s only) of the agricultural raw materials classification.

b/ Due to bad weather, Japan had to source externally some 2.4 million tons of rice for domestic consumption and stock replenishment purposes during 1993/94. This amount was equivalent to 16 per cent of global import volume but was less than 0.7 per cent of world output in 1993. Yet rice prices during October 1993 and June 1994 averaged some 43 per cent higher than the level prevailing in 1993 as a whole.

58. At a more general level, a negative shock in the form of a five per cent reduction in total cereal output was simulated by FAO; the objective was to trace whether tariff cuts and other liberalization measures under the Uruguay Round would exert any measurable effects on world cereal prices. A shortfall of this magnitude is a serious matter. But the results as currently modelled indicate almost no impact of trade liberalization on the stability of prices (FAO, 1995a, p. 23 and 1995b, b. 7).

Chapter III

RICE EXPORT EARNINGS

59. There has been a steady stream of projections regarding the likely impact of the Uruguay Round Agreements on trade and income flows. The exercises are conducted at varying degrees of commodity and geographical disaggregation, and technical complexity. The results provide a rational and informed basis for evaluating the probable order of magnitude, direction, pace and distribution of gains and/or losses; their pitfalls are also well recognized, however.[23]

A. Sources of additional demand

1. East Asia

60. Regarding the rice economy, the most direct trade-creation effect from the Agreement on Agriculture is embodied in new and higher imports from Japan and the Republic of Korea. The conceded access was indeed one of the benchmarks in the negotiations, given the great sensitivity of rice imports in the calculus of domestic political economy in these two East Asian countries.[24] But it was relatively small, and can be eclipsed by other more secular developments in a crop still heavily dependent on the magnanimity of mother nature. Recent shortfalls and delays in rice harvests (and large increases in export demand) are among the illustrative examples; these were discussed in the previous chapter.

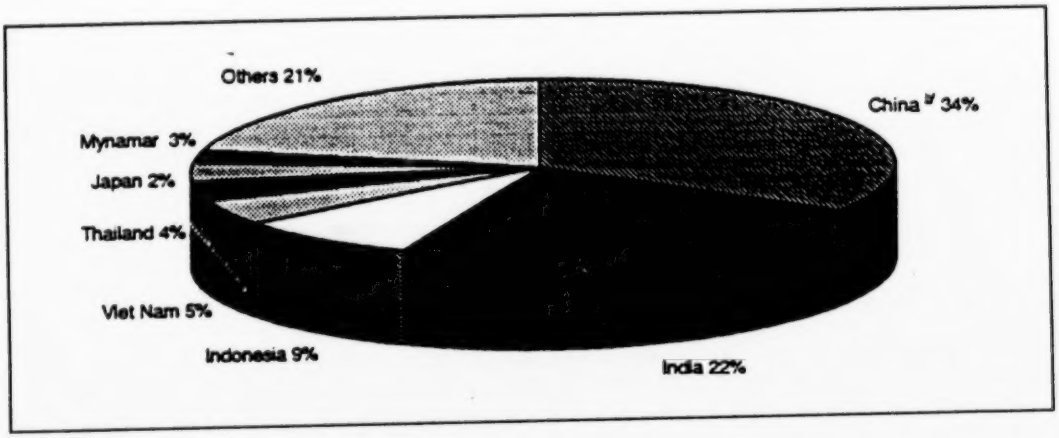
61. The extra requirements for Japan and the Republic of Korea, about 430 thousand tons in 1995, is scheduled to double in 2000. To put them in a comparative perspective, the 1993/94 rice shortfall in Japan resulted in an import level of some 2.4 million tons in 1994. Furthermore, the new demand in 1995 is equivalent to about 3 per cent of the previous years' estimated global rice export volume. At an average price of US$ 298 per ton (100 per cent unbroken and for March 1995 delivery f.o.b. ex-Bangkok), the extra export receipts, although useful, are relatively marginal at about US$ 128 million in 1995; in comparison, the value of global rice exports averaged around US$ 4.9 billion in the early 1990s.

62. The relative stagnancy of rice prices at a lower level during the first four months of 1995, noted in chapter II. B, indicates the rather limited upward pressures generated by such additional import opening. But East Asian consumer preferences generally are for Japonica short- to medium-grain rice, and the improved access may create further imbalance in the composition of available supplies, with a spill-over effect on Indica rice prices as well.

63. The rice economy is sharply skewed. By far the largest growers are China and India whose combined output averaged about 55 per cent of the global aggregate in 1993-1994. Rice exports are also dominated by a handful of surplus producers who accounted for some two thirds of world export volume in the same years (figures 3a and 3b). Long-grain (Indica) rice constitutes most of their output, although the United States also cultivates a large quantity (some 30 per cent of the harvested crop) of short to medium-grain rice. Indica rice varieties also make up around 87 per cent of global export of this cereal (Phillips, Winton and Mai, 1994, pp. 236-237). In contrast, Japonica rice is traditionally grown in North-East Asia (Japan, Republic of Korea and Taiwan Province of China); it also forms the bulk of domestic output in Australia and the European Union.

Figure 3a

Relative shares of the world's largest rice producers, 1993-1994 a/ (annual averages in percentage)

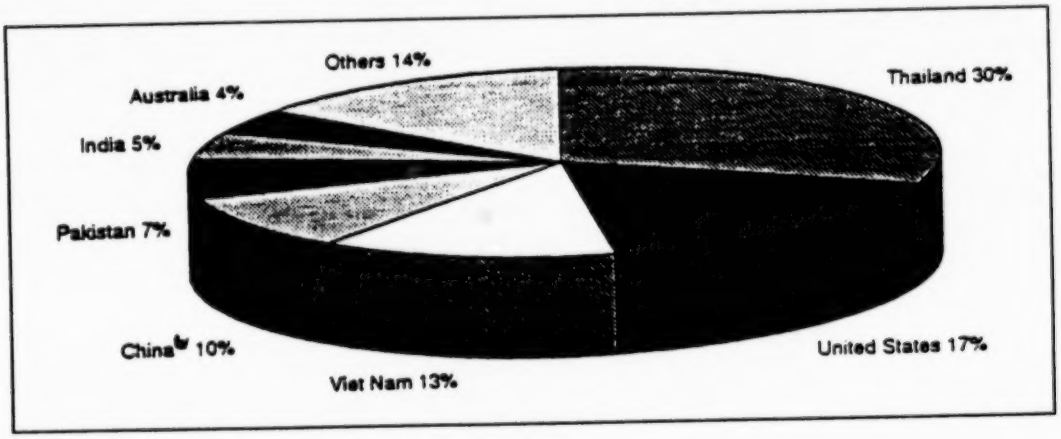


Source: Food and Agriculture Organization of the United Nations (FAO) (1994g, p. 13).

Notes: a/ Data for 1994 are preliminary estimates only.
b/ Including Taiwan Province of China.

Figure 3b

Relative shares of the world's largest rice exporters, 1993-1994 a/



Source: FAO (1994g, p. 14-15).

Notes: a/ Data for 1994 are preliminary estimates only.
b/ Including Taiwan Province of China.

64. Other things being equal, developed-country exporters would be able to share in the benefits from the new East Asian access in the case of rice. Firstly, Australia and the United States have comparatively lower domestic support and protection for the rice subsector. In addition, retail rice prices in East Asia are much higher than the landed cost of rice post-Uruguay Round. Assuming typical mark-ups at various import and distribution layers in Japan, for example, the price for California rice was estimated at about US$ 3,700 per ton at the retail level, US$ 2560 per ton as distributed by or through the Food Agency to wholesalers, and US$ 575 per ton in terms of landed cost in February 1994.[25]

65. Secondly, Australia and the United States are in a good position to supply Japonica rice. The European Union, another surplus producer of this variety, can also compete as production costs (although rather high by Asian producer standards) are still much below the retail prices in the Japanese market. Round grain milled rice from France and Italy, for example, was quoted at US$ 760-780 a ton (5 per cent broken, ex-mill for delivery during February/March 1995). But additional Japonica rice exports would reduce the available overall supplies to meet internal demand within the Union itself. The extra earnings could thus be offset to a considerable extent by higher import spending on Indica rice (more below).

66. With well-established market contacts and high-quality rice on offer, the few large exporters from both the developing and industrialized regions would probably benefit most from the East Asian access concessions under the Uruguay Round. Their relative shares, however, will depend on how in-quota rice imports are allocated or sourced over time, a matter of some uncertainty at present. Myanmar and Viet Nam have re-emerged with a (sizable) exportable surplus only in recent years. They are among the lowest-cost producers but price competitiveness alone does not necessarily guarantee a proportionate share or access.

2. Developed-country markets

67. There are significant and expanding opportunities for rice imports into developed-country markets and trade liberalization under the Uruguay Round certainly has injected an additional stimulus. First, there are large ethnic groups in the European Union, the United States, and Australasia for whom rice is a daily staple. But their preferred types of rice for consumption, by and large, are not cultivated or produced in sufficient quantities in those countries. Second and more generally, per capita rice consumption is relatively very low in developed countries.[26] This factor will combine with the spreading demonstration effect of ethnic cuisine, considerations of health and variety in carbohydrate intake, and judicious promotion and publicity campaigns to render developed countries a growing source of rice demand.

68. As a matter of fact, rice imports have already exceeded the minimum access threshold in both the United States and the European Union; they are also almost double the volume of new access into East Asia at present. In particular, American imports of high-quality rice have risen steadily from around 40 thousand tons in 1985 (or just over four per cent of domestic consumption) to some 200 thousand tons in 1993 (or just under 7 per cent); the latter quantity was worth about US$ 124 million. It is estimated that the 1995 import level will reach a quarter of a million tons. The proportion of fragrant varieties in total rice imports was 83 per cent in 1993, compared to 44 per cent ten years earlier (United States Department of Agriculture, 1994b, pp. 8-9; and FAO, 1994b, p. 95).

69. Thus, growth in domestic demand for (long grain) fragrant rice has far outpaced that of total rice imports. It has been concentrated on the types of rice not grown in the United States (e.g. Basmati rice from India and Pakistan, and Jasmine rice from Thailand). The country is a substantial surplus producer with some 70 per cent of high-quality long-grain (but non-fragrant) rice in its total output of over six million tons. But the large bulk of this supply consists of non-aromatic varieties, except for a comparatively negligible amount of fragrant rice bred and grown in Texas.

70. The volume of imported rice into the European Union was falling by 25 per cent between the early 1980s and 1990s due to a combination of high and rising tariff protection and subsidized import substitution. Nevertheless, the inflow remained sizable at 493 thousand tons in 1993; this level was equivalent to around one third of Union consumption (FAO, 1994h, p. 4). Long-grain Indica and fragrant rice constitute the large bulk of such imports into the Union; the proportion being about 90 per cent at present. The largest demand sources for Indica rice are the United Kingdom, France and Germany with a combined level of almost 80 per cent of aggregate Union consumption of 594 thousand tons in 1993/94.

71. It is significant that such imports have persisted despite relatively very high rates of customs duties. The tariff on milled rice stood at 387 European Currency Units (ECUs), equivalent to US$ 374, a ton in 1982; after peaking at 687 ECUs (US$ 895) a ton in 1987, it fell gradually to about 646 ECUs (US$ 724) per ton in 1993. For comparison, the respective ex-Bangkok prices of Thai rice (5 per cent broken) were US$ 293, $ 230 and $ 264 for the same years.

72. The declining amount of imported rice into the European Union during the 1980s, noted earlier, was also partly due to rising internal production induced by generous subsidies. First introduced in the 1987/88 crop season, assistance was set as high as 330 ECUs per hectare; given an estimated yield of 6.2 tons per hectare, this was equivalent to 53 ECUs (US$ 69) per ton compared to an average ex-Bangkok Thai rice price of US$ 230 per ton in 1987. Subsidies have declined over time to reach 200 ECUs during the 1992/94 seasons; they have since been terminated.

73. Output responses of long-grain rice are impressive, rising from 147 thousand tons of paddy in 1988/89 to a peak of 460 thousand tons three years later. Spain used to be largest grower of Indica rice, with 85 per cent of European Union output in 1988/89. The position was recently taken over by Italy, while Greece and France are emerging producers. Production of this rice variety has been on a declining trend within the European Union since the early 1990s; preliminary estimates indicate a 1994/95 Indica paddy crop of 370 thousand tons (or 259 thousand tons of milled rice on the basis of a higher conversion ratio of 70 per cent). This is less than half of internal consumption needs at present.

74. A long-term stimulus to rice imports into developed countries markets generally are the on-going reductions in the tariffied import duties under the Uruguay Round Agreements: the already low American tariff (US$ 22 per ton on milled rice in 1995) is scheduled to fall by 36 per cent six years later. European Union tariff is set to fall from 650 (413 for husked brown rice) ECUs to 416 (264) ECUs during the same period (table 2 in chapter II). More significant, however, are the implicit larger cuts than the bound rates; customs duties on imported Indica (Japonica) rice will not be more than 80 per cent (88 per cent) of the intervention price within the Union.[27]

B. Longer-term outlook

75. Rice is one of the food items subject to a firm Engel consumption threshold. But so long as there is a continuing mismatch between consumer preferences and supply availability, there exists a potential for trade. The case of aromatic rice, discussed in the previous section, is also illustrative in another context. Tariff barriers and production subsidies may raise cost to the consumers as well as internal output; they cannot, however, shut out completely the pertinent commodity imports especially when an effective demand for them cannot be satisfied from domestic sources - in terms of quantity, quality or variety. The existence of large "grey", "parallel" or "underground" markets in a wide range of commodities in many countries, both developing and developed, is pertinent in this context.

76. There is another dynamic dimension of rice consumption which has not been accorded due regard but which, nevertheless, promises to be an even more significant source of demand, and hence export potential. The income elasticities of demand for this cereal vary appreciably among different grades (in terms of the proportion of broken grains contained there-in) and varieties (e.g. short and medium grains *vis-à-vis* long-grain rice, fragrant types versus non-aromatic rice etc). In general, superior quality rice (i.e. 100 per cent unbroken or with 5-10 per cent broken grains) and fragrant rice (Basmati or Jasmine varieties) invariably become a substitute for their lower-priced counterparts (including "miracle" and other high-yield rice) with rising disposable income and spreading affluence.

77. Furthermore, per capita consumption and availability of such widely preferred foodgrains are comparatively limited in most low and lower middle-income economies. In fact, there has been some observed shift in resources in several large, developing countries to the production of better varieties and/or grades of rice to meet increased local demand. The types of cereal concerned command a premium price in domestic markets but they are also considerably less prolific, some 20-30 per cent lower, in yield (Yap, 1994b, pp. 30-32). There are also other important trade-offs. One relates to systemic leads and lags in the efficiency and flexibility of such resource mobilization and reallocation on a scale which can satisfy compounding jumps in demand in fast-growing economies. There is, on the other hand, an intensive competition for scarce farm land and labour from more remunerative activities in other agricultural subsectors and economic sectors; this has served to constrain foodgrain cultivation in general.

78. But the evolving changes in consumer preferences also have an equally important, albeit qualitative, implication. The satisfaction of pent-up or shifted demand is an integral component of a rising standard of living as economies move along, at different speeds and with varying degrees of smoothness, the upward trend in social and economic development. Essentially, such satisfaction is part and parcel of work-related rewards, individual choice and the feeling of well being.

79. Thus, from a long-term perspective, the export outlook and prospective earnings from superior varieties and grades of rice appear very significant even within the third world itself. The proviso is that a competitive surplus can be maintained among the competing producers (box 3). On the other hand, the international economic environment must remain conducive to a gainful exchange of goods and services in accordance with, by and large, relative prices and their inevitable evolution among trading patterns.

Box 3

A falling surplus from Asia?

The overwhelming bulk of world rice output and, to a marginally less extent, exports comes from densely populated, developing economies in Asia (see figures 3a and 3b above). Notwithstanding the initial smaller base, the annual growth rate of production of this foodgrain has been trending downward from 3.6 per cent during 1965-1975 to 3.2 per cent in the ensuring decade and then more sharply to 1.7 per cent over 1985-1993.a/

This long-term decline in productivity increment represents the confluence of complex sets of causal forces. Briefly speaking, the green revolution has spread to the most progressive, adaptable and reachable segments of the rice (and wheat) farming population. On the other hand, the quality of the natural resource base has been steadily eroded largely as a result of intensive monoculture and an unjudicious use of chemical inputs. The initial strong propelling forces from such new technologies and modern inputs are now losing much steam.b/

There is little scope for more extensive cultivation in the heavily populated Asian rice bowl without a serious trade-off in the form of bromass depletion, especially deforestation.c/ Further extension of land-saving technologies would require massive investment in infrastructure and support services under the current circumstances; unless well managed, it would also impose further strains and stresses on an increasingly fragile ecology in many parts of the continent.d/

At the same time, there exist a stiff competition as well as more remunerative opportunities for farm land and labour in other agricultural subsectors and other economic sectors; this applies in particular to high performance economies which are also large rice producers in East and South-East Asia. Conversion to other more rewarding uses (e.g. growing fruit and vegetable; aquaculture; to meet urbanization industrial, road, recreational and other building needs etc.) has absorbed a significant amount of grain land in Asia.e/ The concurrent outflow of labour to industry and off-farm employment has contributed further to labour shortage during rice planting and harvest seasons in many economies; large-scale mechanization is not possible, due to small size of most farm holdings while land consolidation is constrained by institutional reasons.

Another set of compounding factors is the structural shifts of production toward lower-yield, traditional and preferred rice varieties as discussed earlier. With higher incomes, meanwhile, consumer preferences have moved in favour of greater animal protein in the daily diet; the currently low levels of meat and fish consumption per capita in many low and middle-income countries in Asia would imply thus a substantial requirement of rice and other cereals as feedstuffs.f/

The confluence of structural patterns of growth and change reviewed briefly above could have a huge impact on the global commodity economy and, in particular, the foodgrain sector possibly in the next decade and beyond. The implications of a tighter rice market are sobering. The poor and other disadvantaged social groups typically have to bear a heavier burdens of transition and adjustment. Low income, net food importing countries are also at a considerable disadvantage; the timely and adequate distribution of food grants-in-aid cannot always be guaranteed, especially in periods of the greatest recipient needs.

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a/ As reported in the *Financial Times*, 21 February 1995, from a paper presented by M. Hossain at an international conference on rice research convened at the International Rice Research Institute, Los Baños, the Philippines.

b/ There is at present considerable evidence of the adverse influences on the level and stability of yields, as well as of other negative externalities arising from increased cropping intensity and, on the other hand, inappropriate and inadequate translation of modern inputs into outputs. Indeed, a more intensive application of such inputs will yield diminishing returns in several economic and ecological dimensions. See, for example, Byerlee and Siddig (1994, pp. 1354 - 1359), Yap (1994a, p. 8), and Asian Development Bank (1991, pp. 217-220).

c/ China, India, Indonesia, Myanmar, Pakistan, Thailand and Viet Nam are large rice producers with varying amounts of exportable surplus generally. They are endowed with only 24.4 per cent of the world's arable land but account collectively for 46.6 per cent of the global population as well as 37.8 per cent of world output of cereals (FAO, 1994a, pp. 3-35 and 65-67).

d/ Several economies, Malaysia and Taiwan Province of China included, are not encouraging extensive cultivation. Instead, they are promoting the restoration and conservation of farm land so as to reduce pollution and better protect the environment.

e/ The available estimates indicate a diversion to other purposes of between one-third and one-half of farm land in Japan, the Republic of Korea and Taiwan Province of China in the last two decades. Similar reallocation patterns also operate in other fast-growing economies in East and South-East Asia (Brown, 1995, pp. 17-18; and Ryan and Flavin, 1995, pp. 119-120).

f/ In general, it would require two kilogrammes of grains to produce each kilogramme of poultry meat, four for pork, and seven for feedlot beef (Brown, 1994, p. 17). Moreover, the parallel upward trend in the consumption of certain beverages - for example, beer and grain-based spirits etc. - will also absorb a sizeable amount of cereals as input.

80. When fully implemented, the Uruguay Round Agreements can ease, and otherwise contribute positively to, the process in several ways. On the one hand, there would be improved transparency, predictability, discipline and liberalization in multilateral trade. On the other, these Agreements are expected to push the global economy as well as many of its various constituent regions into significantly higher growth trajectories. Notwithstanding a wide range of problems and difficulties associated with quantification exercises, the preliminary estimates of expected benefits are financially very substantial but not evenly distributed. Nevertheless, they do provide some order of magnitude of the probable demand-driven growth from liberalization-induced trade in merchandise.[28]

Chapter IV

PROTECTION, SUPPORT AND PREFERENCES

81. The foregoing discussion on some expected outcomes in terms of rice export prices and earnings is predicated on a full adherence to the Uruguay Round Agreements, specially that relating to Agriculture, over the phase-in period of six years for developed countries and 10 years for their developing counterparts which are not at the same time LDCs. But the implementation process itself is far from smooth; it will certainly encounter considerable difficulties and ambiguities which could result in widely differing interpretations among countries. This is due to the great technical and procedural complexities of the substantive areas and provisions of the Agreement. On the other hand, the whole series of transition and adjustments to be undertaken remain a sensitive domestic issue as some of the committed changes would involve considerable dislocations and socio-economic costs.

A. Tariffication

82. The elimination of all NTBs against agricultural imports and their conversion into bound customs duties constitute one of the several considerable achievements of the Uruguay Round, especially from a long-term perspective. Liberalization is then reinforced by tariff cuts from a minimum 15 per cent (10 for developing economies) for each tariff line to an overall average reduction of 36 (24) per cent, *ceteris paribus*. But the process involved is not always clear-cut across the whole range of merchandise or with regard to the various participating countries and territories.

83. In the short to medium term, the level and distribution of protection among commodities may thus not fully reflect the above a priori degrees of trade liberalization. There is no weighting system for NTBs and for individual farm products, although it must be stated that such a system is probably very difficult to devise with universal endorsement and without causing undue delay in the negotiations. Also, the simple averaging of tariff cuts is straightforward and provides some flexibility for policy adjustments. But this can lead to a highly uneven dispersion of protective support across commodities.[29]

84. The extent of trade liberalization can be further dissipated, and hence protection strengthened or otherwise maintained, with a careful selection of base-period parameters which, in a number of instances, appear to be artificially high. Indeed the chosen base years 1986-1988 was a period of very low (or collapsing) commodity prices and generally very high rates of agricultural import protection in developed countries, relative to the actual levels in more recent years. Furthermore, there are always the possibilities of inaccurate translation and conversion (on the high side) of NTBs into tariffs, or of unbound tariff rates into "ceiling bindings" as the initial or base levels for the committed, post Uruguay Round reductions. The outturns could conceivably result in steeper protection on a number of sensitive agricultural products than the 1986-1988 base levels or the more recent actual averages would imply.

85. Solid research and quantification is needed on this subject. Meanwhile, a number of tariffication patterns are derivable from the available evidence, including that on rice. First, both developed and developing countries have tariff offers which, in many cases, are noticeably higher than, or seemingly

unrelated to, the estimated or observed tariff protection on rice during the base 1986-1988 period or in the intervening years up to 1994 when the Uruguay Round negotiations were finally completed.

86. Second, many developing countries in Asia, Africa and Latin America tend to declare relatively uniform levels of *ad valorem bound* tariffs (e.g. 100, 150 or 200 per cent etc.) across a range of farm products, including rice. The rates are often upwards of 100 per cent, and several of them apparently exceed the current rates of protection in a number of rice-importing countries concerned. Third, established exporters of rice have comparatively lower import tariffs on this commodity, and vice versa. However, the sample and available estimates are too small to permit any generalized observation concerning the discernible patterns of protection between rice exporters and importers (Hathaway and Ingco, 1995, tables 2 through 4; and Martin and Winters, 1995, pp. 7-12).

87. Although not subject to tariffication at present, imported rice into Japan is subject to a bound mark-up which can be set as high as 292 yen (or about US$ 3.40-3.50 in mid-1995) a kilogramme. This margin, which will not be reduced each year, is thus equivalent to an *ad valorem* rate of several hundred per cent.

88. There are a number of explanations for the above outcomes in the tariffication process. One, countries may deem it necessary to have some bargaining leeway in future negotiations and, on the other hand, some flexibility in reliance on import tariffs as an important source of government revenue. Two, there is also an implicit desire to protect the agriculture sector, including rice farming, and hence the incidence of certain "slippage" in tariffication patterns noted above. Three, a number of countries had unilaterally reduced farm protection during the intervening years between the base period and the conclusion of the Uruguay Round; no further offers were thus deemed needed.

B. Tariff escalation

89. This is another area of great interest to commodity exporters from the third world. The issue is normally discussed in the context of manufactured products as such a tariff wedge can only occur along the processing chain or stage. Tariff escalation will exist under the Uruguay Round although, on an aggregate basis, the size of the wedge (or gap) is smaller in general. The reduction is proportionately larger in the case of tropical industrial products than of natural resource-based commodities. There are, however, wide differences in the magnitudes of tariff escalation and their relative changes among the major industrial countries (GATT, 1994b, pp. 14-15).

90. For all practical purposes, there exists no (or very insignificant) tariff escalation between husked/brown rice and milled rice in most industrial market economies outside the European Union. The large bulk of rice imported into the Union is of the former type due to the availability of large and sophisticated milling capacity, and a hefty tariff wedge. For example, the base customs duties on milled rice (611 ECUs per ton) is about 57 per cent higher than that applicable on the same commodity but of a preceding state of processing or husked rice (388 ECUs) as of mid-July 1995. The magnitude of tariff escalation on rice will remain largely unchanged as both sets of customs duties will be reduced by an equal annual percentage up to the year 2000.

91. The size of the tariff wedge, however, has been reduced marginally with the implementation of the Uruguay Round in the European Union. Taking 1990-1992 as the base period, there is an increase in the current customs duties on brown

rice of about 8 per cent; that on milled rice went up by less than 3 per cent. The marginal downsizing of the tariff wedge is also observable with 1986-1988 as the base period.[30]

92. However, there will be no distinction made in terms of applicable tariffs on rice imported in bulk, containers or packages. Besides, the customs duties on imported Indica (Japonica) rice will not exceed the intervention price by 80 (88) per cent; this implies a lower tariff on high-value rice imports or with falling intervention price levels, as pointed out earlier (chapter II.A.2 and endnote 26). These factors could stimulate further processing at the exporting points - a possible reversal of the previous trend with considerable implications on intra-Union rice processing.

C. Support and subsidies

93. The lack of more significant commitments to liberalize agriculture trade through the tariffication process is probably one of the more unexpected outcomes from the Uruguay Round Agreement on Agriculture. Domestic support and export subsidies are other areas in which the net configuration of policy responses and adjustments, and hence the actual degrees of trade liberalization, can be less than clear-cut among countries, as well as across various categories of farm activities and products.

94. The TAMS provision puts an absolute constraint on the amount of internal assistance to agriculture. It is not product-specific but is sector-wide in coverage; this provides some flexibility to policy but also opens up possibilities for adjusting support and protection among different products. Likewise, various permutations of adjustment measures can be tailored to meet simultaneously the reduction commitments in the outlays on and volume of subsidized exports, as well as to accommodate specific domestic requirements and expediency (more below). Moreover, all expenditure on support or subsidies is defined in nominal terms. Thus countries with high inflation rates may find the reduction commitments too pressing. This matter was explicitly recognized and, to some extent, provided for in the review provisions of the Agreement on Agriculture.

95. Lastly, a relatively large set of internal support policies are exempted from reduction provisions (i.e. "green box" measures, *de minimis* assistance, and a number of decoupled payments on production-limiting programmes) . Under certain circumstances, therefore, it is feasible to substitute output-related deficiency payments for export subsidies. Such policy reinstrumentation can still meet the constraint on direct export subsidy outlays without reducing the export volume; it was to guard against such a possibility that a suggestion was originally made to bind all commodity-specific AMS levels. Under other conditions, the different rates of reduction in tariff (36 per cent) and TAMS (20 per cent) could in effect result in an increase in domestic subsidies without violating the TAMS provision. Border protection can thus be replaced for by domestic assistance measures within the TAMS cap.[31]

96. Generally it is recognized that the policy responses actually made by countries may differ greatly in terms of their impact on various categories of farm production and agricultural trade liberalization. Meanwhile, large Asian rice producers account for the bulk of reduction commitments on subsidized rice export volume. The starting figures for China and Indonesia, for example, are about 731 and 296 thousand tons respectively in 1995; in comparison, the combined quantity from the European Union and the United States is 449 thousand tons.

The latter country, however, will have almost eliminated all export subsidies on rice by the end of the implementation period (table 2).

D. Special treatment

97. DFT in favour of developing countries is embodied in a longer time frame for adjustment (10 years instead of 6) and smaller reduction commitments in tariffs, domestic support and export subsidies (box 1). This will provide a useful breathing space for on-going agriculture restructuring before the next series of negotiations, currently expected to take place a year before the end of the implementation period. The amount of room needed to manoeuvre, however, is necessarily dissimilar among developing economies, especially if systemic lags in supply responses are the result of inadequate infrastructure plus human resource bottlenecks, and poor endowments of natural assets. Developing countries, which have sustained a strong and diversified export record, will thus be in a better position to manage the necessary policy adjustments and internalize the consequent benefits in the process.

98. LDCs, on the other hand, are exempted from making any reduction in their bound tariffied rates. They are also exempt from scaling down export subsidies. In addition, they have eight years (compared to five for developing countries) to phase out the required preference for and utilization of domestic over imported products. The DFT so accorded is an explicit recognition of the acute and special development problems facing disadvantaged countries. But it is not a sustainable substitute for the necessary policy reforms and sectoral restructuring to improve over time the efficiency and flexibility with which resources are mobilized and allocated, as well as the dynamic comparative advantage of domestic production.

99. Indeed, the accelerating and perhaps irreversible trend toward deepened global interdependence has generated both impulses and imperatives for economic policy adjustment across domestic sectors. It will have given rise to more complex patterns of economic interactions among these sectors in the coming decade and beyond. Whatever the exact scenario may be, there will be an even higher premium placed on enhanced economic efficiency and resilience. External trade and domestic economic liberalization are important in this context. Notwithstanding temporary or expedient slippage and reversal, such a development orientation will have to be continuously managed through various, evolving transitions in domestic policy and institutional framework. The important role of government in initiating and sustaining the adjustment process is apparent in this connection.

E. Food aid

100. This is a matter of considerable concern to participants in the Uruguay Round. Agriculture trade liberalization is widely expected to raise world food prices and, at the same time, to erode and shift in varying degrees trade preferences accorded to LDCs and other low-income countries, and to third-world economies more generally (some of the implications from such a shift or erosion are discussed in box 4). Yet, the majority of the former two groups of countries are also net food importers.

Box 4

Loss of preferences a/

There are several arrangements under which beneficiary countries are accorded various trade preferences. Under the Generalized System of Preferences (GSP), at least 130 developing countries and territories are granted lower tariffs and other concessions by industrial countries. Other preference schemes include the Lomé Convention (between the European Union and certain African, Caribbean and Pacific (ACP) developing countries), the Mediterranean Agreements (between the European Union and North African developing countries), the Caribbean Basin Initiative (between the United States and developing countries in the Caribbean), and the South Pacific Regional Trade and Economic Cooperation Agreement (between Australia and New Zealand and developing country members of the South Pacific Forum).

The series of tariff cuts as mandated in the Uruguay Round Agreements will result in some erosion of and shifts in existing preferences at the margin. This is a matter of concern to developing countries. GSP duty-free imports, amounting to over US$ 77 billion in 1992, constituted about a quarter of dutiable imports into OECD countries. Preferential treatment covers individually some US$ 7 to 10 million of beneficiary countries' exports under the Lomé Convention, under the Caribbean Basin Initiative, and under the Mediterranean Agreements.

Generally, however, the erosion and changes tend to be less than those suggested by the tariff cuts due to the product composition of these cuts. The estimated reductions in GSP preference margin in the European Union (23 per cent), Japan (15 per cent) and United States (9 per cent) average some 18 per cent, compared to bound-rate tariff cuts of about 40 per cent in the case of industrial goods and 36 per cent for agricultural commodities.

Similarly, the involved shifts are expected to impact more heavily on the more advanced or stronger developing country exporters such as those in Asia and Latin America; their higher-value-added products tend to face higher tariffs. But under the Uruguay Round, these countries are also in a better position to benefit from greater market access, in textile and agriculture items for example, thus counteracting the impact from eroding preferences. In any case, several of *them* may have to graduate out of GSP schemes themselves.

Dutiable imports under other trade preference arrangements constitute a larger share in total imports from developing countries, raging from 43 per cent under the Lomé Convention to as high as four-fifths under the Caribbean Basin Initiative. But again, the nature and composition of these exports tend to mitigate somewhat the adverse impact of general tariff cuts.

A large proportion of such trade has already been subjected to low customs duties; the losses of earnings in OECD markets borne by sub-Saharan countries as a result of preference erosion is estimated at about 0.3 per cent of total export value (some US$ 5 billion in 1992). Besides, about two-thirds of ACP preferences accrue to agricultural items and take the form of guaranteed market access. Thus, the current levels of such access can probably be protected under the Agreement on Agriculture. There is the relatively long phase-in of tariff cuts under the Round, moreover.

At the same time, however, a number of developing countries are more heavily dependent than others on the export of industrial and manufactured products which are accorded preferential treatment. Under the Mediterranean Agreements, for example, such exports account for over 85 per cent of dutiable imports; in absolute terms, they were valued at almost US$ 8 billion in 1989. Current access for manufactures may be more difficult to preserve as it is not provided for in the case of these products.

Trade preferences can be highly beneficial as they would help the recipient countries overcome certain initial disadvantages arising from diseconomies of scale and scope, and from other constraints on economic production and structural change. However, they cannot constitute an unchanging parameter in a country's long-term development strategy; nor can an unyielding approach for the indiscriminate protection of domestic agriculture and industry, the flipside of externally-accorded preferences. Indeed, the proliferation of unilateral and regional trade liberalization initiatives in recent years underlies an increasingly widespread recognition of the pressing need to improve domestic allocative efficiency and flexibility. In that context, trade concessions and other preferences can be a mixed blessing unless they can be utilized by both the providers and/or recipients to assist or promote the transition process in developing countries.

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a/ Based on Harmsen and Subramanian (1994, pp. 14-17), and UNCTAD (1994h).

101. From the above analysis, the updrift in rice prices as a result of the Uruguay Round Agreements is likely to be much more limited than that anticipated earlier. The same observation appears to be applicable to several other farm products as well. It is also apparent that the movement towards greater supply (and hence surplus) control is just one of a range of possible outcomes under these Agreements. But given the cap on export subsidies, food grant-in-aid is a legitimate means to move excess supplies across border; conceivably, the volume of such aid may even be increased (Hathaway and Ingco, 1995, pp. 31-32; and OECD, 1994, p. 29).

102. A basic constraint on food aid are budget limitations in donor countries. But many of these countries value their cereal purchases for food aid at the domestic rather than the (subsidized) export level. In consequence of the subsidy caps, internal prices of surplus commodities may fall somewhat while export prices may increase, culminating in a lighter aid burden. Lastly, donating pledges are normally made in terms of tonnage and not on a value basis under the Food Aid Convention.

103. It would appear, on balance, that the burden on net food importing developing economies could be less heavy than originally assumed, at least in the short to medium term. The flipside is that, notwithstanding the chronic overhang of excess production, the level of food grant-in-aid may not shift to a higher trend or may not be adequate and available with greater timeliness, especially during periods of greatest emergency need.

F. Some concluding remarks

104. Implicit in various analytical contexts examined in the three chapters above is the new policy-making environment within the rice economy ushered in by the uruguay Round Agreements. The classical, widely used forms of government intervention include guaranteed price support, mainly through target or procurement arrangements, coupled with commensurate import protection and export subsidies. They are among market-distorting practices that are currently or will soon be prohibited or discouraged. In turn, this will generate a differentiated impact on various developing economies, among others, at different stages of socio-economic development.

105. Import tariffs and quota allocations or auctions have been a major source of fiscal revenue among most third-world countries; this accounts in part for some of the slippage in the tariffication process discussed earlier. Domestic consumers pay the subsidy or tax in terms of higher prices; but they will have an ever-decreasing incentive to oppose such market distortions over time as staple food outlays absorb an increasingly insignificant part of their household budget. The import tariffication process, and the bound and gradually falling tariffied rates of customs duties will thus limit considerably the scope for policy adjustments among low-income developing economies which are not LDCs.

106. In comparative contrast, income supports (whether provided directly or via adjustment/relocating programmes) do not have an impact on consumer prices and hence can be initiated or continued. But these and many non-price, decoupled schemes of assistance (such as those specified in the "green box" package) involve large fiscal expenditure. Such outlays can easily make disproportionate calls on the limited resources at the disposal of government in poorer developing countries; they are also subject to periodic public scrutiny when disbursed through treasury payments.

107. One can envisage that future intervention in rice cropping or, for that matter, agriculture will be more broad-based in focus. The main thrusts are likely to be towards the provision of infrastructure and other ancillary facilities and services, including education and training. The great importance of a larger flow of, and more equal access to, institutional finance within the rural sector is evident in this connection. But higher output (and hence the degrees of internal self sufficiency) does not guarantee domestic food security or commensurate economic returns without the ready availability of storage, transport and communication facilities and services. Concerted efforts to provide such support infrastructure would redress to a considerable extent the large resource transfers out of agriculture, which are quite sizeable, in the totality of the policy environment in many developing countries. This would, in turn, improve incentives for larger output and higher productivity.

108. Likewise, research is the fountain head of new technologies which, in turn, have induced quantum leaps in the productivity of agriculture and agro-processing. This aspect of policy has often been neglected due to more pressing needs, and inadequate supplies of human and other resources. It is likely to receive much greater attention from many developing economies in the future; this is especially so when major technical innovations, whether in agriculture or in other sectors, can no longer be regarded as a freely available public good. Greater attention is also likely to be given to the allocation of adequate resources to improve the related transmission and delivery of new and improved inputs, and to obtain the proper responses and feedbacks at the farm level. It is also necessary to reduce the considerable gender bias in extension work and to accord due recognition to the important role of women. As farmers, they have been an important allocator of resources at the household level in their own right.

109. For a variety of reasons discussed at some length previously, the Uruguay Round Agreements are likely to have only a marginal impact on the rice and, for that matter, on many farm products within the commodity economy, at least in the short to medium time frame. Meanwhile, rice output in most producing countries will continue to reflect the vagaries of climatic conditions. This inherent vulnerability, together with the structural "thinness" of the global export market, render rice prices highly volatile as well as unpredictable.

110. But one of the unintended by-products of the current wave of domestic economic policy liberalization and deregulation has been to shift to rice producers and traders the burden of bearing such prices risks. In addition, the on-going dismantling of government intervention in commodity markets notably through marketing boards, stabilization funds, and subsidy/processing arrangements tends to spill over in its impact on the poorer segments of the rural economy, especially landless agricultural workers.

111. In that connection, there exist modern, market-based financial instruments for the management of price and production risks, among other applications. These can be useful in reducing the amplitudes of fluctuations or otherwise protecting individuals or participating groups, including rice producers, from intra-seasonal price and other risks. Generally, however, the use of such management tools in the commodity sector has grown rather slowly among developing economies, due to a variety of circumstances and constraints.[32] Nevertheless, in the absence of alternative arrangements and mechanisms, this is another area deserving commensurate policy attention.

ENDNOTES

1. At Marrakesh, 108 countries and territories signed the Final Act and 109 endorsed the WTO Agreement; 18 participants were unable to sign the latter due to purely domestic legislative impediments. As befits a Round of negotiations lasting over seven years and covering several areas of highly complex and often sensitive areas of trade policy, the Final Act, the WTO Agreement, and other integral elements are almost 600 pages in length. Together with the signatory countries' schedules they occupy 31 volumes of documentation, weighing altogether some 75 kilograms (GATT, 1994a). For relevant details as well as an initial assessment of the Uruguay Round outcomes in a readily accessible and less technical presentation, see GATT (1994b) and UNCTAD (1994d and e).

2. The Punta del Este Ministerial Declaration is reproduced in full in UNCTAD (1989).

3. These barriers include quotas, import prohibitions and restrictions, variable import levies, minimum import prices, discretionary import licensing, NTBs maintained by or through state trading enterprises, voluntary export restraints etc. The tariff equivalent of NTBs is equal to the difference between the average domestic price for a product so affected and a representative average world market price for the same or similar item. The difference, also called the price wedge or gap, can be used to establish either a specific or an *ad valorem* import levy. Direct price comparisons generally may not be possible for processed agricultural products. In this case, the tariff equivalent for such an item is the sum of the tariff equivalents for component products multiplied by their proportion in the item itself.

4. It should be noted here that, firstly, the number of bound tariff lines before the Uruguay Round was 43 per cent for industrial products and 35 per cent for agricultural commodities. However, the pre-Round value of imports under bound tariff rates was 68 per cent in the former case and 63 per cent in the latter group; in comparison, the corresponding post-Round proportions are 87 and 100 per cent respectively. Secondly, the overall level of protection of agricultural items in most developed countries will still be higher than that accorded to industrial goods at the end of the implementation period (GATT, 1994b, p. 26).

5. The volume trigger level is equivalent to 105 (110 or 125) per cent of average domestic consumption during the three preceding years if the market share of the product concerned is greater than 30 (between 11 and 30, or 10 or less) per cent. The extra levies cannot be more than one-third of the corresponding tariffs prevailing, and cannot be maintained beyond the year in which they are imposed. In cases of the price trigger, additional customs duties are due only when the difference between the landed import unit values and the average 1986-1988 domestic reference prices exceed 10 per cent. The extra levies will be 30 per cent of the price gap or wedge, when such difference is between 11 and 40 per cent. They become proportionately larger with a bigger price wedge, thus resembling a progressively variable import levy.

6. Amber policies include price supports, concessional and other loans, acreage payments, payments based on the number of livestock, input subsidies etc. Their green counterparts, as specified at considerable length in Annex 2, cover general government services (such as research, training, extension, marketing and promotion, infrastructure etc.), public stockholding for food security purposes, domestic food aid regularly provided at reasonable prices, decoupled income support, disaster relief payments, payments for structural assistance (via investment aids, or for producer/resource retirement), payments under regional assistance and environment programmes, and certain payments for the purpose of income and income safety-net insurance.

7. These include direct export subsidies, sale of government stocks at prices below those prevailing in domestic market, export payments financed by compulsory levies, subsidies for export marketing costs, subsidies for freight and transportation expenses, and subsidies for commodities contingent on their inclusion or incorporation in exported products.

8. However, in cases where the average quantities of subsidized exports during 1991-1992 are higher than that of the 1986-1990 base periods, reductions in the remaining (five) years are to be made from this higher base. Alternatively, if the subsidized quantities exported in the former period are in excess of the pertinent 1986-1990 base levels by 25 per cent or more, and if 40 per cent or more of these exported quantities come from publicly-held or intervention stocks, reductions are to be effected on the basis of averaging the 1986-1990 and 1991-1992 subsidy levels.

9. If an exporting country's SPS standards ensure the level of health protection desired by its importing partner then those levels should be deemed "equivalent" and acceptable even if they are different from those prevailing in the latter country. Exports should also be feasible from a pest/disease free area within a country even if the surrounding areas are not free from such infestation or contamination.

10. Section B of the Declaration spelled out, in particular, that developed countries should not seek, and neither should their developing counterparts be required to make, concessions that are not consistent to the latter's development, financial and trade needs. Great care should be taken to avoid disruptive effects on developing countries' trade in the implementation of negotiated standstill and rollback provisions and commitments; due attention, likewise, should be given to the special situation and problems of the least developed countries, as well as to the need to encourage positive measures to facilitate expansion of their trading opportunities.

11. To recapitulate briefly, in terms of implementation time frame and reduction magnitude, developing countries are given more time (1995-2004, instead of 1995-2000 for their developed counterparts) and are required to lower tariffs by 24 per cent (instead of 36 per cent). Similarly, they have to make smaller adjustments in domestic support and are also provided with a higher de *minimis* level. Second, as regards domestic support measures, the "green box" contains special provisions for developing countries (including food security stockholdings and internal food aid). In addition, assistance for the purchase of agricultural inputs, farm investment and diversification from illicit crops is acceptable. Third, concerning export subsidies, developing countries are allowed certain outlays to cover marketing expenses and differential internal transport costs.

12. Subsidies may be financial, involving direct or indirect transfers of funds (e.g. loan guarantees). Alternatively, they may necessitate the foregoing of government revenue (e.g. tax credits). Subsidies may also take the form of government purchases, of income or price supports, of public provision of goods and services (other than general infrastructure) etc.

13. By adverse impact is meant causing serious prejudice to other countries - in terms of injury to their domestic industries, or of nullification and impairment of their benefits derivable under GATT 1994. Specifically, such damage is deemed to exist when the total *ad valorem* subsidization exceeds five per cent of a product value; when subsidies are made to cover losses borne by an industry, or operating losses of an enterprise (except for one-time, non-recurrent measures to gain time for the implementing long-term solutions and to avoid acute social problems); and when debt repayments are forgiven.

14. Thus, actionable subsidies are those inherently restricted to, or demonstratively specific in practice in favour of, certain recipients; as well as those not granted on the basis of objective criteria. Exceptions, however, include specific assistance for industrial research and precompetitive commercial development (subject to precise conditionality and tests), for disadvantaged domestic regions, and for adapting existing facilities to new environmental requirements. There are detailed provisions governing those three categories of non-actionable assistance; among others, the pertinent support programmes are to operate only for five years, and have to be reviewed six months before the end of that period. It is also worth noting that direct payments under production limiting programmes as provided for in the Agreement on Agriculture are also non-actionable.

15. Annex VII contains all LDCs as well as the following countries: Bolivia, Cameroon, Congo, Cote d'Ivoire, Dominican Republic, Egypt, Ghana, Guatemala, Guyana, India, Indonesia, Kenya, Morocco, Nicaragua, Nigeria, Pakistan, the Philippines, Senegal, Sri Lanka and Zimbabwe.

16. Such comparative advantages are defined as being equivalent to at least 3.25 per cent of the world trade in the relevant product(s) for two consecutive calendar years. If it is reached then least developed and other countries listed in Annex VII must phase out the pertinent (export commodity) subsidies in eight years, and other developing countries in two years.

17. No countervailing action is to be pursued if the values of support granted to the subsidized products are not greater than two per cent of their individual unit values or the import volume of those items is less than four per cent of the total import of the like commodities in the importing countries. For Annex VII countries as well as for other developing countries which have eliminated government assistance for exports prior to the end of the eight-year grace period, the unit value threshold is three per cent. With respect to the market share provision, however, export subsidies become actionable if import volumes of the subsidized items collectively account for more than nine per cent of the total imports (of the pertinent products), although the individual shares of import market penetration may be less than four per cent.

18. Departures from the notified programmes and measures, and their implementation time-frames, may be acceptable if they are necessary for the process of transformation. Thus the grace period of seven year could be (implicitly) extended in exceptional circumstances.

19. Indeed, the provisions of Due Restraint in Article 13 (also termed as the "peace clause") ensure that actions taken in full conformity with the Agreement on Agriculture will not be subject to the disciplines of the SCM Agreement. Such actions may include, as appropriate, domestic support measures (of both categories) and export subsidies as well. However, the latter may be subject only to the imposition of countervailing duties upon a determination of injury or threat thereof.

20. The WTO Agreement became operational on 1 January 1995 as expected. There were initially 81 member countries and areas accounting collectively for some 90 per cent of the value of international trade in goods and services. Another 50 countries (and territories) are expected to become members in the near future.

21. They have also contributed to noticeable changes in the prevailing perceptions concerning the commodity economy. The fierce debate on "inward" and "outward" looking development strategies in the 1950s and 1960s was governed largely by the perceived decline in the long term trends in the terms of trade between primary and manufactured products. The sharp commodity booms of the 1970s, however, underlined increasing concerns about the approaching depletion of natural resources, and the absolute physical limits to the then prevailing patterns of material-intensive growth. They also served to lull the disquiet

and fears of many developing countries about their perennial dependence on primary commodities. The last decade witnessed massive investments in resource development, a widespread application of new technologies and, on the other hand, relatively subdued economic performance of, and the on-going shift in output structure toward services in, most industrialized market economies. Triggered and/or aggravated by such developments, a persistent, "commodity crisis" has emerged - including an excess supply of a structural nature of several "traditional" commodities subject to income-inelastic demand, as well as to substitution and displacement in use; and a prolonged, steep collapse of commodity prices for most of the 1980s. See, for example, Maizels (1992, pp. 7-39 and 118-129), World Bank (1994b, pp. 32-67), Morgan and Sapsford (1994, pp. 1681-1684), and Sapsford and Balasubramanyan (1994, pp. 1737-1745) for pertinent analysis; UNCTAD (1994a, b and c) contain extensive data on the patterns of commodity trade and prices, among others.

22. Intervention was effected between local producer (or import) and consumer (or export) prices by means of variable (and often implicit) levies or budgetary subsidies, supplemented by adequate stocking arrangements. These modalities were designed to insulate domestic farmers and their incomes from the full influence of external market forces over the commodity cycles or shocks. There is strong evidence that such price stabilization schemes (operated by 37 developing economies in the sample) had reduced periodic instability in domestic prices and revenue instability in the large majority of cases. The stabilization effect was particularly large for grains - with fluctuations in internal prices and earnings being lowered by 15 and 12 per cent respectively over 1967-1981. It was positive even though more modest in the case of beverages and fibres (World Bank, 1994b, pp. 59-60).

23. See, for example, the various papers presented at the World Bank conference on "The Uruguay Round and the Developing Economies" - including Blackhurst *et al.* (1995), Brown *et al.* (1995), François *et al.* (1995), Harrison *et al.* (1995), and Goldin and van der Mensbrugghe (1995). Refer also to GATT (1994b), Goldin *et al.* (1993), Goldin and Knudsen (1990), and UNCTAD (1990).

24. Given the historical patterns of development and policy orientation, both countries as well as other dynamic economies in East and South-East Asia have a significant interest in the promotion of global trade liberalization, and of greater transparency and predictability in unilateral trade rules. But the highly delicate issue of imported rice gave this particular element of trade negotiations much greater prominence in public discussion concerning the Uruguay Round (IATRC, 1994, pp. 74-76).

25. It should be noted that the landed cost during the last quarter of 1993 and the first quarter of the following year was considerably inflated by sharp increases in rice prices due to a sudden large change in demand. After the announcement by Japan of emergency import measures at the end of September 1993, on-farm rice prices in the United States rose by about US$ 75 per ton, while top quality export rice commanded a premium as high as US$ 200 per ton (United States Department of Agriculture (USDA), 1994a, pp. 6-7).

26. For the United States, the figures are 6 kg per year in 1978, 8 kg in a decade later, and projected to rise to 13 kg in 2000. The corresponding estimates being around 4 kg for the 1980s and 6 kg in 2000 in the case of Western Europe. The projected level of per capital rice consumption in Australia is about 7 kg a year in 2000, from less than 5 kg in 1988 (Yap, 1994a, pp. 16-17).

27. This could mean a greater reduction in rice import tariff if intervention prices were to decline due to on-going reforms of the CAP, among other factors. Alternatively, no duty would be paid on those types of rice whose landed cost is greater than the ceiling level, as is likely to be the case of Basmati rice. It follows that the price gap or wedge between this type of rice and other fragrant varieties (e.g. Jasmine rice) could be smaller, with some possible

substitution effects. Furthermore, rice processing and packaging at source would be encouraged as the higher costs incurred could be offset by a lower import duty. This possibility could have considerable implications on the European milling industry (FAO, 1994c, pp. 56).

28. The global income gains in the year 2005, as estimated on a provisional basis by the GATT secretariat, are very large in absolute terms. They range from around US$ 109 to 315 billion (with static specifications) and US$ 184 to 510 billion (under dynamic assumptions) in 1990 United States dollars. The large bulk of such economic expansion, however, accrues to developed market economies; the developing East and South-East Asian subregions also benefit considerably. Estimates for rice incorporating shifted demand curves and consumer preferences in the next decade are not made. A more general result indicates higher export volume for the grains sector, in the range of 4.1 to 4.6 per cent in 2005; for comparison, the export value of grains amounted to US$ 24.2 billion in 1992. There are, of course, measurable uncertainties concerning the magnitudes of these as well as other estimates. See GATT (1994b, pp. 27-38 and 59-64), Martin and Winters (1995, pp. 22-37), and the references cited in endnote 22 above.

29. Thus the committed tariff reductions can be carried out in various ways. Deeper cuts can be made in pre-existing tariffs in combination with shallower reductions in the much steeper tariff equivalents of NTBs which had been erected to protect sensitive commodities. The possibilities of (so-called) "dirty tariffication" and non-uniform dispersion of tariff cuts have been noted by, among others, IATRC (1994, pp. 40-41), Low and Yeats (1994), OECD (1994, pp. 50-51), and Hathaway and Ingco (1995, pp. 17-20).

30. Tariffs on brown (milled) rice averaged 381 (634) ECUs per ton during 1990-1992; the corresponding customs duties for 1986-1988 being 406 (654) ECUs. For details, see FAO (1994c, pp. 4-5). Tangermann (1995, pp. 5-22) examines further the more important implementation issues - in terms of, firstly, the implementation of rules for establishing the mandated commitments and, secondly, of the likely implementation of these scheduled commitments by developed countries in the years to come.

31. The various combinations of adjustment possibilities are examined in some detail by Tangermann (1994, pp. 28-39).

32. At one level, there is a limited awareness of risk exposures and difficulties in identifying and measuring such risks in many developing countries. Besides, the financial policy framework and ancillary regulatory infrastructure required by risk management instruments are not readily in place. Moreover, the lack of a favourable credit rating tends to constrain developing countries' access to international markets. The available instruments, in addition, are normally designed for short-term risk management; they are confined to a small number of commodities as well. At another level, only a small fraction of the potential diversification of risks can be accomplished intra-country. And transactions with international financial centres require not only adaptive modifications of domestic institutions and regulations. The rapid pace of technical changes in these centres will also create considerable difficulties for many developing countries' systems to catch up. For a detailed examination of the above issues, see UNCTAD (1993 and 1994f), World Bank (1994, pp. 61-67), Budd (1995) and Lessard (1995, pp. 115-131).

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